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Mar 2, 1992

DERWENT-ACC-NO: 1992-126441

DERWENT-WEEK: 199216

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TITLE: Prepn. of instant boiled rice - by soaking in water, removing water, adding oil, steaming air drying, frying, dewatering and defatting

PATENT-ASSIGNEE:

ASSIGNEE

CODE

TAMURA M

TAMUI

PRIORITY-DATA: 1990JP-0178510 (July 7, 1990)

Search Selected

Search ALL

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PATENT-FAMILY:

PUB-NO

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LANGUAGE

PAGES

MAIN-IPC



JP 04066064 A

March 2, 1992

004

APPLICATION-DATA:

PUB-NO

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DESCRIPTOR

JP 04066064A

July 7, 1990

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INT-CL (IPC): A23L 1/10

ABSTRACTED-PUB-NO: JP 04066064A

BASIC-ABSTRACT:

Rice is soaked in water at room temp. The water is removed and small amt. of edible oil is mixed in the rice. The rice is steamed and then it is forcibly dried by air. The boiled rice is fried in oil and dewatered. It is defatted by centrifuging.

USE - The dried boiled rice easily and instantly takes up hot water. It has good taste similar to that of conventional boiled rice. It is preserved for long term.

CHOSEN-DRAWING: Dwg.0/2

TITLE-TERMS: PREPARATION INSTANT BOILING RICE SOAK WATER REMOVE WATER ADD OIL STEAM
AIR DRY FRY DEWATER DEFATTED

DERWENT-CLASS: D13

CPI-CODES: D03-H01;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1992-058970

Previous Doc

Next Doc

Go to Doc#

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Page 2 of 2

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PTO 06-2785

Japanese Patent
Document No. 04-066064

METHOD FOR MANUFACTURING AN INSTANT RICE DISH

[Sokuseki Beihan no Sei Ho]

PTO 06-2785

Takeo Tamura

Japanese Patent

Document No. 04-066064

UNITED STATES PATENT AND TRADEMARK OFFICE
Washington, D.C. 20540
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Country : Japan
Document No. : 04-066064
Document Type : Kokai
Language : Japanese
Inventor : Takeo Tamura
Applicant : Takeo Tamura
IPC : A 23 L 1/10
Application Date : July 7, 1990
Publication Date : March 2, 1992
Foreign Language Title : Sokuseki Beihan no Sei Ho
English Title : METHOD FOR MANUFACTURING AN
INSTANT RICE DISH

Document Type : Kokai
Language : Japanese
Inventor : Takeo Tamura
Applicant : Takeo Tamura
IPC : A 23 L 1/10
Application Date : July 7, 1990
Publication Date : March 2, 1992
English Title : METHOD FOR MANUFACTURING AN
INSTANT RICE DISH

Specification

1. Title of the invention

Method for manufacturing an instant rice dish

2. Patent Claim

A method for manufacturing an instant rice dish characterized by the fact that the following processes are executed in proper order: A process whereby bleached rice grains are immersed within a normal-temperature water, a process whereby water is drained from said bleached rice grains, a process whereby an edible oil is mixed & kneaded, at a low quantitative ratio, with said bleached rice grains, a process whereby the oil-mixed rice grains are cooked by means of a steaming treatment, a process whereby the steamed rice grains are individually separated in a state where they are being forcibly dried with a streaming air, a process whereby the obtained rice dish is briefly fried with an oil for seconds and then dehydrated, and a process whereby the oil-fried rice-dish is defatted in a state where they are being forcibly subjected to a centrifugal force.

1. Title of the invention

Method for manufacturing an instant rice dish

3. Detailed explanation of the invention

A method for manufacturing an instant rice dish characterized by the fact that the following processes are executed in proper order: A process whereby bleached rice grains are immersed within a normal-temperature water, a process whereby water is drained from said bleached rice grains, a process whereby an edible oil is mixed & kneaded, at a low quantitative ratio, with said bleached rice grains, a process whereby the oil-mixed rice grains are cooked by means of a steaming treatment, a process whereby the steamed rice grains are individually separated in a state where they are being forcibly dried with a streaming air, a process whereby the obtained rice dish is briefly fried with an oil for seconds and then dehydrated, and a process whereby the oil-fried rice-dish is defatted in a state where they are being forcibly subjected to a centrifugal force.

(Industrial application fields)

The present invention concerns a method for manufacturing an instant rice dish which can be preserved in a dry state over an extended period and be easily readied for a meal by pouring hot water, etc. into it.

treatment, a process whereby the steamed rice grains are individually separated in a state where they are being forcibly dried with a streaming air, a process whereby the obtained rice dish is briefly fried with an oil for seconds and then dehydrated, and a process whereby the oil-fried rice-dish is defatted in a state where they are being forcibly subjected to a centrifugal force.

Numbers in the margin indicate pagination in the foreign text.

3. Detailed explanation of the invention

(Industrial application fields)

(Prior art)

Various processing methods for providing preservable rice dishes by means of preliminary drying treatments, etc. have been proposed in the prior art.

According to Japanese Patent Publication Kokoku No. Sho 51[1976]-22066 Gazette (first example), for example, edible oils & fats are poured onto water-absorbed bleached rice grains, and after the obtained oil-mixed rice grains have been steamed under pressure and then frozen, an instant rice dish is obtained by further spraying the obtained steamed rice with a hot air steam and by quickly dehydrating & drying the same, whereas according to Japanese Patent Application Publication Kokai No. Sho 60[1985]-234556 Gazette (second example), a steamed rice is temporarily cooled, and after an aqueous ethanol solution has been added to it, it is further subjected to a drying treatment, whereas a preservable rice dish can be obtained in each case, and it is consumed upon the restoration of a normal rice dish state by pouring a hot water, etc. onto it.

(Prior art)

Various processing methods for providing preservable rice dishes by means of preliminary drying treatments, etc. have been proposed in the prior art.

(Problems to be solved by the invention)

The aforementioned manufacturing methods of the prior art, however, are accompanied by unsolved problems.

example), for example, edible oils & fats are poured onto water-absorbed bleached rice grains, and after the obtained oil-mixed rice grains have been steamed under pressure and then frozen, an instant rice dish is obtained by further spraying the obtained steamed rice with a hot air steam and by quickly dehydrating & drying the same, whereas according to Japanese Patent Application Publication Kokai No. Sho 60[1985]-234556 Gazette (second example), a steamed rice is temporarily cooled, and after an aqueous ethanol solution has been added to it, it is further subjected to a drying treatment, whereas a preservable rice dish can be obtained in each case, and it is consumed upon the restoration of a normal rice dish state by pouring a hot water, etc. onto it.

In other words, both the first & second examples require such additives as surfactants, etc., and in a case where the original rice dish state is restored by means of heating or by pouring hot water, the odors of said additives persist, and since the state of the restored dish differs from that of a normally steamed rice in this respect, a devastating commercial value loss is unavoidable. /2

As far as their respective manufacturing processes are concerned, furthermore, the first example requires large production facilities for the respective treatments of compression, freezing, hot air drying, etc., due to which a cost appreciation is unavoidable, whereas a special surfactant must be readied for the second example.

(Problems to be solved by the invention)

The aforementioned manufacturing methods of the prior art, however, are accompanied by unsolved problems.

In other words, both the first & second examples require such additives as surfactants, etc.

For these reasons, it has become urgent to provide a high-quality portable instant rice dish which can be consumed as a tasty rice dish by simply pouring hot water thereonto and which is unaccompanied by foreign odors.

(Mechanism for solving the problems and functions)

The present invention concerns a method for manufacturing an instant rice dish capable of solving the aforementioned problems, and in summary, as has been mentioned in the patent claim section, it is peculiarly characterized by the facts that bleached rice grains with which an edible oil has been mixed & kneaded are steamed, cooled, & individually separated, that the obtained rice dish is briefly fried with an oil for seconds and then dehydrated, and that the oil-fried rice dish is defatted in a state where they are being forcibly subjected to a centrifugal force, based on which it becomes possible to manufacture a preservable rice dish easily without requiring special large-scale production facilities and, in a case where the original rice dish state is restored by pouring hot water, etc., to obtain a rice dish utterly unaccompanied by foreign odors of oils, etc. and comparable to a rice dish steamed within a steam cooker in every respect.

(Mechanism for solving the problems and functions)

(Application example)

Next, the contents of the present invention will be explained in detail with reference to an application example comprising of the following treatment processes.

section, it is peculiarly characterized by the facts that bleached rice grains with which an edible oil has been mixed & kneaded are steamed, cooled, & individually separated, that the obtained rice dish

(1): Water absorption process

After approximately 400 cc of bleached rice grains A with a water content of approximately

9 wt% have been preliminarily washed with water, they are immersed within water inside the bowl

(1) of a desired content volume shown in Figure 1 (i), and water absorption is induced for approximately 5 hours.

etc., to obtain a rice dish utterly unaccompanied by foreign odors of oils, etc. and comparable to a rice dish steamed within a steam cooker in every respect.

(Application example)

Next, the contents of the present invention will be explained in detail with reference to an

(2): Water draining process

Water is then drained from the bleached rice grains A1 which have sufficiently absorbed water during the previous process within the fine meshy metal container (2) shown in Figure 1 (ii) for approximately 15 ~ 20 min.

(3): Edible oil addition process

The bleached rice grains A1 obtained, upon the completion of the water draining process, in a state where some residual water content persists on the surface thereof are then transferred into the mixing container (3), and after an extremely small quantity (i.e., several drops) of the edible oil (4) (e.g., salad oil, etc.) has been added to the bleached rice grains A1 by using the small spoon (5), the obtained mixture is sufficiently agitated either manually or via an arbitrary power agitation mechanism (not shown in the figure) in such a way that said edible oil will become thinly & homogeneously adhered to the surface of the bleached rice grains A1 (kneaded rice grains A2) {Figure 1 (iii)}.

(4): Steaming process

Next, the rice grains thus treated are steamed within the steamer (6) at a temperature of approximately 90°C for approximately 15 min. ~ 20 min. according to the illustration of Figure 1

(iv)

(5): Separating & drying process

The steamed rice dish B is then transferred into a separation bowl (7) equipped with the separating bottom (7A) in possession of square transmission holes (7B) with a side length of approximately 6 mm, and said rice dish B is loosened with gentle vibrations according to the illustration of the arrow and dropped, via the separating bottom (7A), into the meshy metal bowl (8) configured underneath, whereas on this occasion, the rice is cooled & dried in a granular state by

(4): Steaming process

Next, the rice grains thus treated are steamed within the steamer (6) at a temperature of approximately 90°C for approximately 15 min. ~ 20 min. according to the illustration of Figure 1

feeding an air stream from the air fan (9) configured at a stage posterior to said meshy metal bowl (8). The duration of this cooling & drying treatment ranges from approximately 4 to 6 hours, and it is desirable for the air to be transmitted in a relatively moderate fashion.

As a result of this treatment process, the volume of the rice dish B becomes reduced to approximately $\frac{3}{4}$ of the volume of the bleached rice A provided as a raw ingredient, whereas its water content is virtually constant within a range of approximately 11.0 wt% ~ 12.0 wt%, and thus, cooked rice grains B1 hard to the extent that they can be easily crushed with teeth become obtained {Figure 1 (v)}.

(6): Oil-drying & dehydrating process

Next, said cooked rice grains B1 are, in a state where they remain on the meshy metal bowl (8) used in the previous process, dumped into & immersed within an edible oil (11) (e.g., salad oil, etc.) being heated at a high temperature of approximately $170^{\circ}\text{C} \sim 180^{\circ}\text{C}$ within the tempura frying pan (10) over a brief period of approximately 5 ~ 7 sec., and as soon as the cooked rice grains B1 have become afloat on the oil surface as a result of this oil-drying & dehydrating treatment, the meshy metal bowl (8) is lifted out of the edible oil (11) {Figure 1 (vi)}.

The fried rice C thus fried in an oil bears a milky white color and is sufficiently dehydrated at a water content of approximately 0.0 [sic] wt%, whereas its volume is expanded to approximately 1.5 equivalents of that of the bleached rice A.

(7): Defatting process

Next, the obtained fried rice C is promptly poured into the centrifugal cage (12), and said centrifugal cage (12) is then driven & spun at a high velocity for approximately 1 ~ 3 min. by the motor (13), as a result of which oils & fats become blown away & removed from said fried rice C.

pan (10) over a brief period of approximately 5 ~ 7 sec., and as soon as the cooked rice grains B1 have become afloat on the oil surface as a result of this oil-drying & dehydrating treatment, the meshy metal bowl (8) is lifted out of the edible oil (11) {Figure 1 (vi)}.

6

at a water content of approximately 0.0 [sic] wt%, whereas its volume is expanded to approximately

As a result, approximately 600 cc of a dried rice dish D comprised of non-sticky grains with a fluffy snow flake appearance becomes obtained as a finished product. This dried rice dish D is soft to the extent that it can be directly chewed with teeth & eaten {Figure 1 (vii)}.

(8): Preservation process

It is desirable for said dried rice dish D to be preserved & stocked in a cold & dark space after having been hermetically sealed, together with the desiccant pack (15), within an appropriate heat-resistant container (14) equipped with a lid (Figure 2).

In a case where the dried rice dish D obtained by the manufacturing method explained above is readied for eating, hot water is poured into the container (14) equipped with a lid, and in a case where said rice is then left unattended for approximately 5 ~ 6 min. in a lid-closed state, a fluffy freshly cooked rice dish becomes obtained.

Incidentally, the volume of the poured hot water may be enlarged to the extent that the dried rice dish D becomes sufficiently soaked in a case where a softer rice dish is preferred, whereas the volume of the poured hot water may be reduced in a case where a harder rice dish is preferred.

(8): Preservation process

(Effects of the invention)

As the foregoing detailed explanations of the manufacturing method of the present invention have demonstrated, the dried rice dish obtained by this method bears a flaky snow appearance and is visually appetizing, and in a case where its original state is restored by pouring hot water, utterly no odors of the edible oil used during the manufacturing scheme are sensed, based on which it becomes possible to instantly provide a rice dish with favorable stickiness, crunchiness, and touch to the tongue comparable to the corresponding attributes of bleached rice cooked within a steamer.

Almost all hardware members used in the course of this manufacturing scheme, furthermore, can be supplied by household kitchen utensils, due to which no special expensive &

(Effects of the invention)

As the foregoing detailed explanations of the manufacturing method of the present invention

gigantic production facilities are required, and since each process is devoid of a hazardous treatment operation, the targeted dish can be safely manufactured without requiring skills.

4. Brief explanation of the figures

Figures 1 (i) ~ (vii) are demonstrational diagrams pertaining to apparatuses used for the manufacturing method of the present invention, whereas Figure 2 is a profile view diagram of a preservation container.

(1): Bowl; (2): Metal container; (3): Mixing container; (6): Steamer; (7): Separation bowl; (8): Meshy metal bowl; (9): Air fan; (10): Tempura frying pan; (12): Centrifugal cage; (13): Motor.

Agent: Kazuki Okada, patent attorney

gigantic production facilities are required, and since each process is devoid of a hazardous treatment operation, the targeted dish can be safely manufactured without requiring skills.

Figures 1

(i)

(1)

4. Brief explanation of the figures

Figures 1 (i) ~ (vii) are demonstrational diagrams pertaining to apparatuses used for the manufacturing method of the present invention, whereas Figure 2 is a profile view diagram of a preservation container.

(ii)

(2)

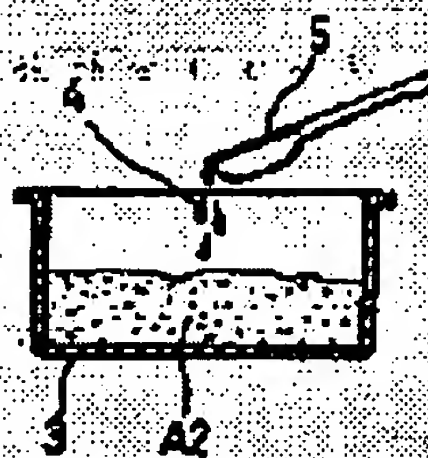
(8): Meshy metal bowl; (9): Air fan; (10): Tempura frying pan; (12): Centrifugal cage; (13): Motor.

Agent: Kazuki Okada, patent attorney

(iii)

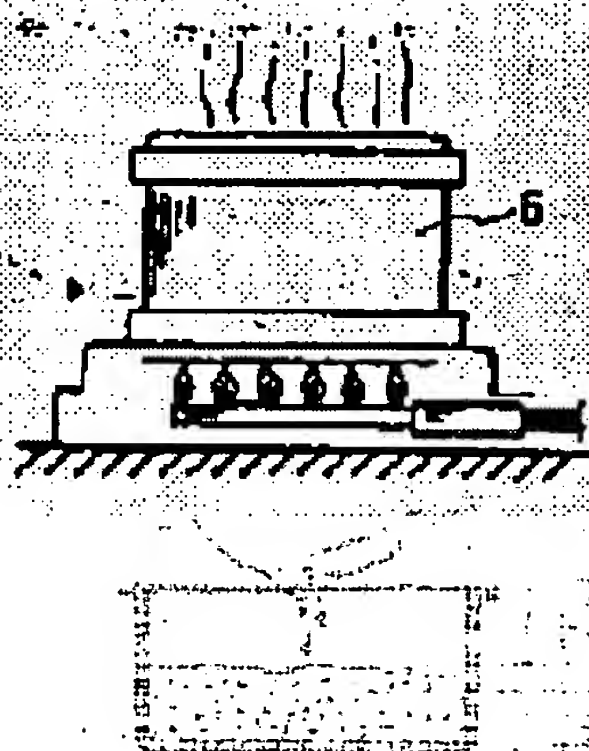
(8)

(A)



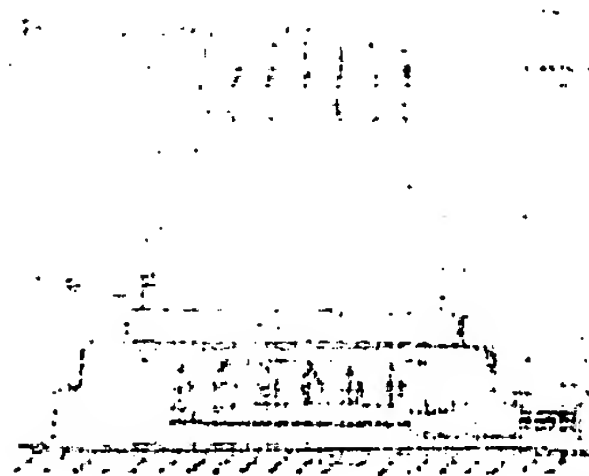
(vi)

(=)



/4

(=)



第 1 例

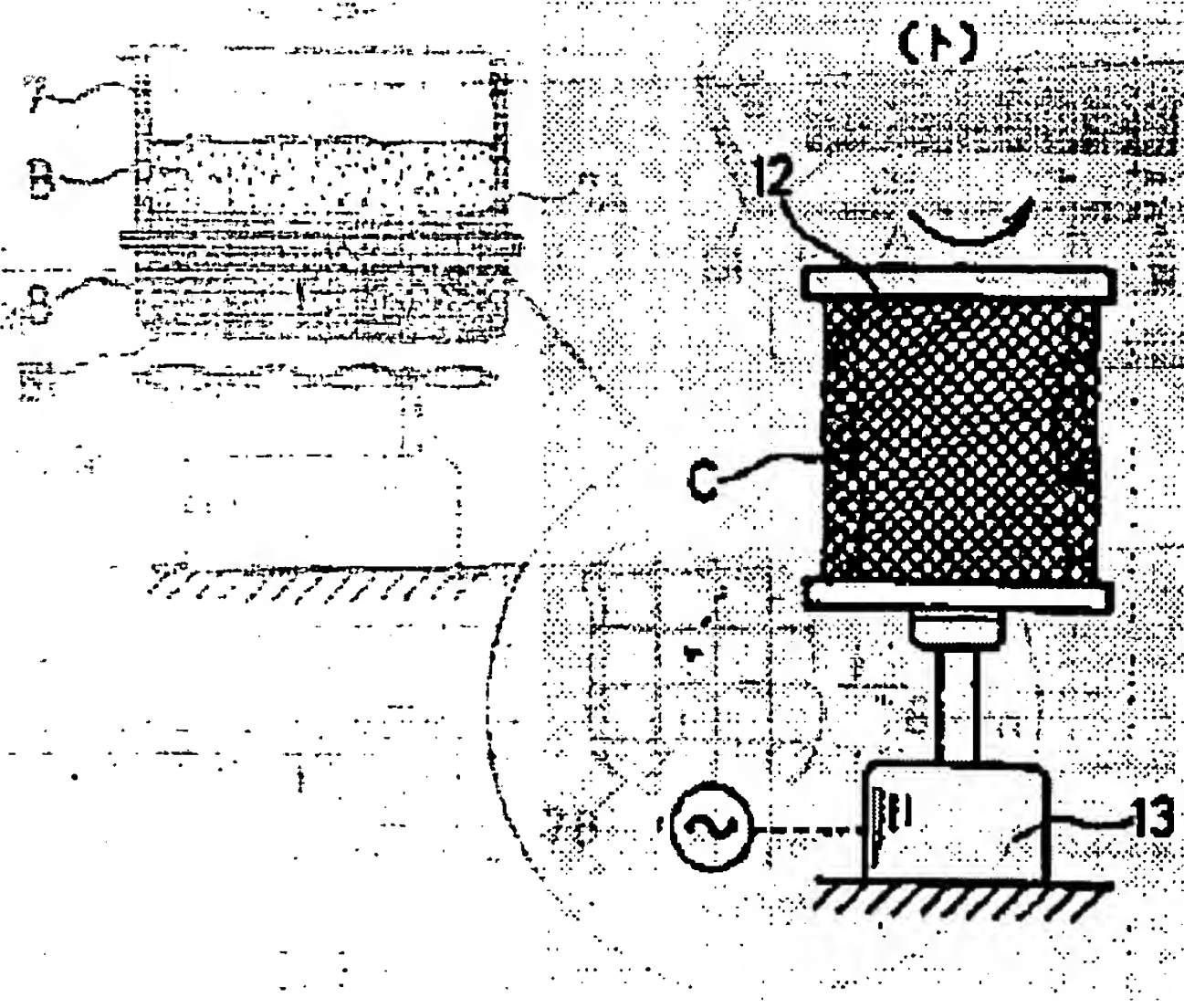
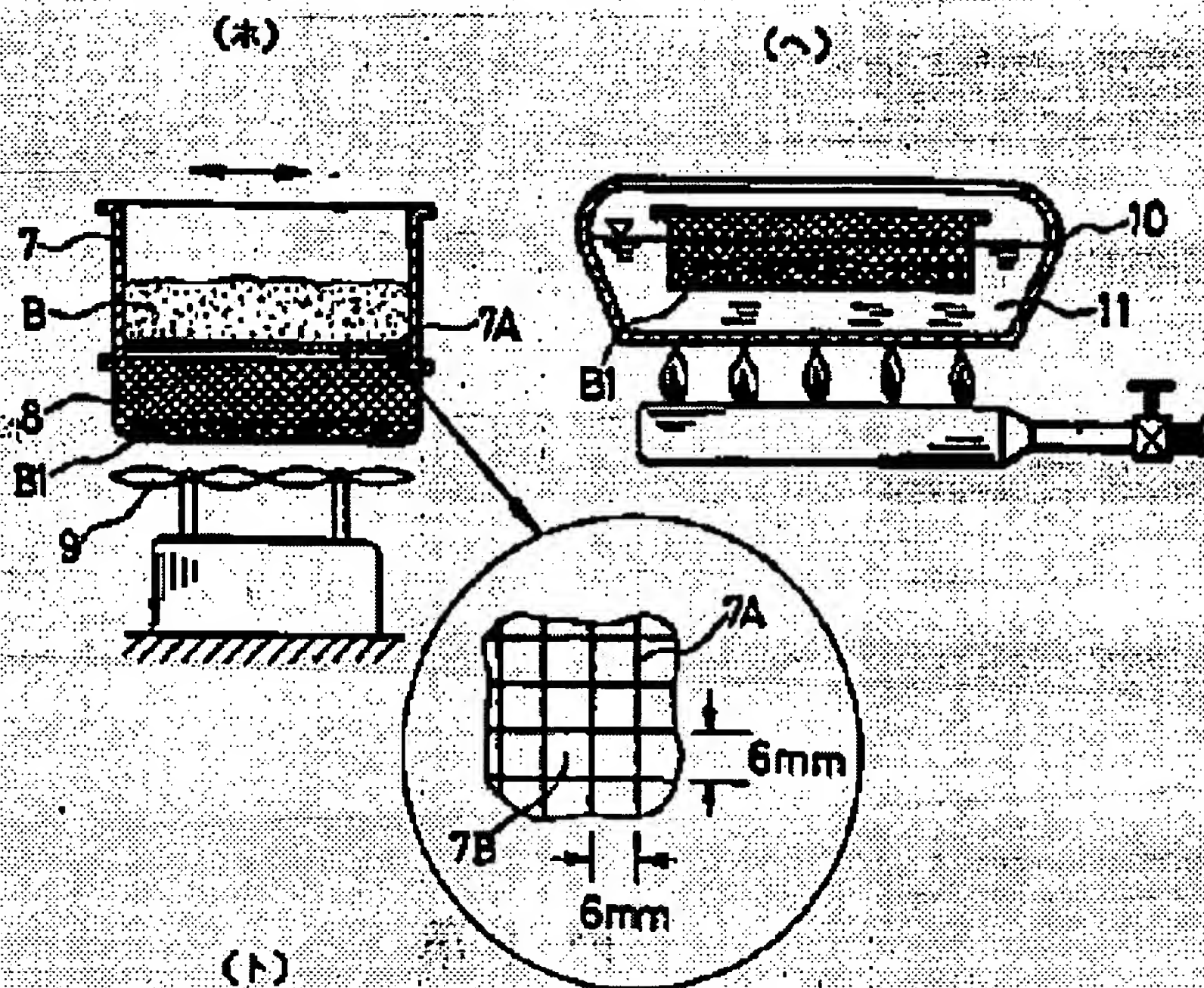


Figure 2

第 2 圖

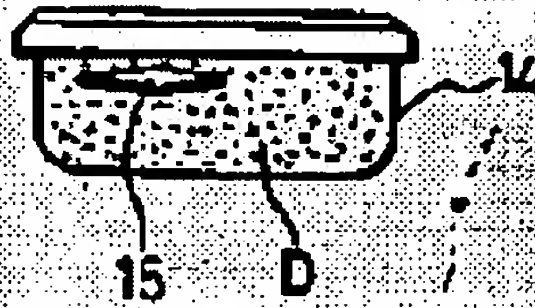


Figure 2

